

What is claimed is:

1. A pharmaceutical composition comprising tetrac, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier, which is capable of suppressing TSH secretion while reducing or avoiding the thyromimetic stimulation of peripheral tissues induced by a dose of L-thyroxine which produces an equivalent TSH-suppressive effect.
2. The pharmaceutical composition of claim 1 which further comprises an additional thyromimetic compound.
3. The pharmaceutical composition of claim 2, wherein the additional thyromimetic compound is L-thyroxine.
4. The pharmaceutical composition of claim 1 which is capable of suppressing TSH secretion while reducing or avoiding the thyromimetic stimulation of the tissues of the heart, liver, kidneys, muscle and bone as compared to the stimulation of said tissues induced by a dose of L-thyroxine which produces an equivalent TSH-suppressive effect.
5. The pharmaceutical composition of claim 1 which is capable of suppressing TSH secretion while reducing or avoiding the thyromimetic stimulation of the tissues of the heart as compared to the stimulation of said tissues induced by a dose of L-thyroxine which produces an equivalent TSH-suppressive effect.
6. The pharmaceutical composition of claim 1 which is capable of suppressing TSH secretion in a patient suffering from malignancy or other abnormal growth of the thyroid while reducing or avoiding the thyromimetic stimulation of peripheral tissues induced by a dose of L-thyroxine which produces an equivalent TSH-suppressive effect.

7. The pharmaceutical composition of claim 1 which is capable of suppressing TSH secretion without suppressing the activity of pituitary specific type II monodeiodinase.
8. The pharmaceutical composition of claim 1 which is capable of suppressing a hypothyroid condition.
9. A method for suppressing TSH secretion while reducing or avoiding the thyromimetic stimulation of peripheral tissues induced by a dose of L-thyroxine which produces an equivalent TSH-suppressive effect comprising administration of a pharmaceutical composition comprising tetrac, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier.
10. The method of claim 9 for treatment of a patient suffering from malignancy or other abnormal growth of the thyroid.
11. The method of claim 9 for treatment of a patient suffering from hypothyroidism.
12. A method for suppressing TSH secretion while reducing or avoiding the thyromimetic stimulation of the tissues of the heart, liver, kidneys, muscle or bone as compared to the stimulation of said tissues induced by a dose of L-thyroxine which produces an equivalent TSH-suppressive effect, comprising administration of a pharmaceutical composition comprising tetrac, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier.
13. A method for suppressing TSH secretion while reducing or avoiding the thyromimetic stimulation of the tissues of the heart as compared to the stimulation of said tissues induced by a dose of L-thyroxine which produces an

equivalent TSH-suppressive effect, comprising administration of a pharmaceutical composition comprising tetrac, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier.

14. A method for long-term treatment of patients with malignancies or abnormal growths of the thyroid gland, comprising administration of a pharmaceutical composition comprising tetrac, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier.

15. A method for suppressing growth of residual thyroid tissue in a patient post thyroidectomy comprising administration of a pharmaceutical composition comprising tetrac, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier.